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IS 10054 (1996) : Textiles - High density polyethylene (HDPE) monofilament mosquito netting, round mesh [TXD 23: Textile Materials made from Polyolefins]

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भारतीय मानक

वस्त्रादि — उच्च घनत्व पोलीइथलीन मोनोफिलामेंट का  
गोल जाली का मच्छरदानी का कपड़ा — विशिष्टि  
( पहला पुनरीक्षण )

*Indian Standard*

TEXTILES — HIGH DENSITY POLYETHYLENE (HDPE)  
MONOFILAMENT MOSQUITO NETTING, ROUND  
MESH — SPECIFICATION

( *First Revision* )

ICS 59.080.30

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BUREAU OF INDIAN STANDARDS  
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NEW DELHI 110002

## FOREWORD

This Indian Standard ( First Revision ) was adopted by the Bureau of Indian Standards, after the draft finalized by the Textile Materials Made from Polyolefins (Excluding Cordage) Sectional Committee had been approved by the Textile Division Council.

This standard, first published in 1981, has been revised to overcome the difficulties faced in measuring number of holes in base and bias especially due to wavy pattern in the knitted mosquito netting. The requirement of number of holes in base and bias of the netting has been changed to the number of holes per square centimetre. The requirement of weave has also been deleted as now-a-days only knitted mosquito netting is popular.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2:1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

*Indian Standard*

**TEXTILES — HIGH DENSITY POLYETHYLENE (HDPE)  
MONOFILAMENT MOSQUITO NETTING, ROUND  
MESH — SPECIFICATION**

*(First Revision)*

## 1 SCOPE

**1.1** This standard prescribes constructional details and other requirements of HDPE monofilament mosquito netting, round mesh.

**1.2** This standard does not specify the general appearance, feel, shade, etc, of the netting.

## 2 REFERENCES

The Indian Standards listed in Annex A are necessary adjuncts to this standard.

## 3 MANUFACTURE

### 3.1 Yarn

The monofilament yarn used for the manufacture of the netting shall be made out of HDPE of designation HDPE LAN A50 T012, or HDPE LAN A57 T012, or HDPE LAN A50 T022 or HDPE LAN A57 T022 according to IS 7328 : 1992. However, the density of the material used shall not be more than 955 kg/m<sup>3</sup> at 27°C and the melt flow rate (MFR) - 190/50 of the material shall be between 1.3 to 2.4 g/10 min. The filament shall be uniform and reasonably free from defects.

### 3.2 Netting

The shade of the netting shall be as agreed to between the buyer and the seller and the netting shall be free from knitting and other defects.

## 4 REQUIREMENTS

### 4.1 Construction

The netting shall comply with the requirements specified in Table 1. The linear density of filament is given for guidance only.

### 4.2 Colour Fastness

The colour fastness rating of netting shall comply with the requirements specified in Table 2.

## 5 MARKING

**5.1** The netting shall be marked with the following:

- a) Name of the material;
- b) Width and length of the piece;
- c) Source of manufacture; and
- d) Year of manufacture.

**Table 1 Particulars of HDPE Monofilament Mosquito Netting, Round Mesh**  
(Clause 4.1)

Linear Density of Filament (Approx)	Number of Holes per cm <sup>2</sup>	Mass, g/m <sup>2</sup>	Bursting Strength, Min N ( or kgf/m <sup>2</sup> )	Width, cm	Length, m
(1)	(2)	(3)	(4)	(5)	(6)
18 to 19 tex (or 160 to 170 denier)	16 to 20	80 ±5%	83 (or 8.5)	122 or as agreed ±1	As agreed
Method of test	Annex B	IS 1964 : 1970	IS 1966 : 1975		IS 1954 : 1990

**Table 2 Colour Fastness**

(Clause 4.2)

Sl No.	Colour Fastness Rating	Requirement	Method of Test
(1)	(2)	(3)	(4)
i)	Light (change in colour), <i>Min</i>	5	IS 686 : 1985 or IS 2454 : 1985
ii)	Washing, Test 2 (change in colour and staining), <i>Min</i>	4	IS 3361 : 1979

**5.2 BIS Certification Marking**

The netting may also be marked with the Standard Mark.

**5.2.1** The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act*, 1986 and the Rules and Regulations made thereunder. The details of conditions under which the licence for use of Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

**6 PACKING**

Each roll or bundle of mosquito netting shall be packed in low density polyethylene film of 60 µm thickness (150 gauge) or any other suitable material as agreed to between the buyer and the seller. The

rolls or bundles shall again be packed in bales or cases.

**7 SAMPLING****7.1 Lot**

The number of pieces of mosquito netting delivered to a buyer against one despatch note shall constitute a lot.

**7.2** For assessing the conformity of the lot to the requirements of the standard, the samples as given in Table 3 shall be drawn at random from the lot for inspection. To ensure the randomness of selection, methods given in IS 4905 : 1968 shall be followed.

**7.3** The lot shall be considered as conforming to the requirements of this standard if all the samples meet the requirements specified in the standard.

**Table 3 Sample Size**

(Clause 7.2)

Number of Pieces in the Lot	Number of Pieces to be Inspected for		
	Length, Width and Number of Holes	Mass and Bursting Strength	Colour Fastness
(1)	(2)	(3)	(4)
Up to 100	8	3	2
101 to 150	13	5	2
151 to 300	20	5	2
301 and above	32	8	3

**ANNEX A**

( Clause 2 )

**LIST OF REFERRED INDIAN STANDARDS**

<i>IS No.</i>	<i>Title</i>	<i>IS No.</i>	<i>Title</i>
686 : 1985	Method for determination of colour fastness of textile materials to daylight ( <i>first revision</i> )	2454 : 1985	Methods for determination of colour fastness of textile materials to artificial daylight (Xenon lamp) ( <i>first revision</i> )
1954 : 1990	Determination of length and width of woven fabrics — Methods ( <i>second revision</i> )	3361 : 1979	Method for determination of colour fastness of textile materials to washing : Test 2 ( <i>first revision</i> )
1964 : 1970	Methods for determination of weight per square metre and weight per linear metre of fabrics ( <i>first revision</i> )	4905 : 1968	Methods for random sampling
1966 : 1975	Methods for determination of bursting strength and bursting distention of fabrics — Diaphragm method ( <i>first revision</i> )	7328 : 1992	Specification for high density polyethylene materials for moulding and extrusion ( <i>first revision</i> )

**ANNEX B**

( Table 1 )

**MEASUREMENT OF NUMBER OF HOLES****B-1 APPARATUS****B-1.1 Template**

- a) A metal plate of about 0.5 mm thickness with a square hole of 2 cm × 2 cm cut accurately in the centre.

OR

- b) A rigid transparent plastic sheet with a square of 2 cm × 2 cm marked in the centre.

**B-2 METHOD**

Lay the netting flat without stretching on a flat surface of contrast colour. Count the number of holes in the square marked on/cut in the template in such a way that holes of more than half in size are counted as full hole and holes which are less than half in size are ignored. Divide the number of holes thus counted by 4. Count the number of holes at 5 different places and calculate the average.

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This Indian Standard has been developed from Doc : No. TXD 23 ( 0071 ).

### **Amendments Issued Since Publication**

Amend No.	Date of Issue	Text Affected

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